

REMARKS

Applicant respectfully requests reconsideration. Claims 1-25 and 27-31 were previously pending in this application. By this amendment, Applicant is canceling claims 8 and 10 without prejudice or disclaimer. Claims 1, 3, 7, 11-13, 16, 18, 24 and 25 have been amended. As a result, claims 1-7, 9, 11-25 and 27-31 are pending for examination with claim 1 being an independent claim. No new matter has been added.

Claim 1 has been restricted to TiO_2 which is doped and incorporates the subject matter of previous claim 8. The amendment is based on previous claim 8. The claims have also been amended to clarify that the TiO_2 is doped, i.e., in the present tense.

The units specified in claim 7 have been corrected to “mole %” based on page 6, lines 27 to 30 of the description. Similarly, the units specified in claim 11 have also been corrected to “% by weight” based on page 10, lines 21-22.

A clarifying amendment has been made to claim 24 based on page 12, line 20 to 22 of the description. That claim now refers to a composition that comprises a water dispersible TiO_2 and an oil dispersible TiO_2 .

The benzimidazole sulfonic acid sunscreen agents in claim 16 have been amended for conformity with the description (page 9, lines 22 to 23) and the claim now refers to the salts of said sunscreen agents.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claim 24 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claim 24 has been amended to refer to a composition that comprises both a water dispersible TiO_2 and an oil dispersible TiO_2 . This recitation is consistent with page 12, lines 20 to 22 of the description and is the one applied by the Examiner in the Official Action.

Accordingly, withdrawal of the rejection of claims 24 under 35 U.S.C. § 112 is respectfully requested.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1-2, 11-14 and 16-23 under 35 U.S.C. § 102 as being anticipated by Mitchnick et al. (U.S. Patent No. 5,441,726). Applicant respectfully requests reconsideration.

Claim 8 was not rejected based on Mitchnick et al. (US Patent No. 5,441,726), which is directed to compositions comprising doped titanium dioxide. Claim 1 has now been restricted to UV sunscreen compositions comprising doped titanium dioxide and thus the objection based on Mitchnick et al. should not apply.

As the Examiner appreciates, Mitchnick et al. is primarily concerned with compositions comprising zinc oxide particles as the active ingredient. There is no mention in that document that titanium dioxide particles can be used instead of zinc oxide. Moreover, Mitchnick et al is completely silent about compositions comprising doped titanium dioxide. Claim 1 of the present application is not anticipated by Mitchnick et al. Based on their dependence from claim 1, none of the other rejected claims should be anticipated by Mitchnick et al.

Accordingly, withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. § 103

1. The Examiner rejected claims 3 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Mitchnick et al. Applicant respectfully requests reconsideration based on the amended claims.

The subject matter of previous claim 8 was not rejected based on Mitchnick et al. Thus, the rejection under 35 U.S.C. § 103(a) based on this document should not therefore apply to amended claim 1.

Accordingly, withdrawal of this rejection is respectfully requested.

2. The Examiner rejected claims 4-10, 15 and 24 under 35 U.S.C. §103(a) as being unpatentable over Mitchnick et al. in view of Knowland et al. (WO 99/60994.) Applicant respectfully requests reconsideration.

For the same reasons explained above, the amended claims of the present application are not obvious over the combination of Mitchnick et al. with Knowland et al. The primary focus of Mitchnick et al. is compositions where zinc oxide is the active ingredient. There is nothing in Mitchnick et al. about substituting the zinc oxide active ingredient with a different metal oxide, such as TiO₂. Moreover, Mitchnick et al does not mention compositions comprising doped titanium dioxide particles.

Mitchnick only teaches the use of zinc oxide as the active ingredient in UV screening composition. A person skilled in the art would not seek to replace the active ingredient in that document because it is an essential feature of the Mitchnick compositions. Thus, the skilled person would not seek to combine Mitchnick with Knowland in order to substitute the doped zinc oxide active ingredient of Mitchnick with the doped titanium dioxide of Knowland.

A further point is that the zinc or titanium metal oxides in both Mitchnick and Knowland, as part of a sunscreen composition, aim to protect the substrate to which the composition is to be applied. There is no recognition in either document that the presence of doped titanium dioxide might have beneficial effects in reducing or preventing degradation of one or more other organic ingredients present in the sunscreen composition itself.

In fact, Mitchnick may be regarded as implicitly teaching that a composition should not contain both an organic sunscreen agent and titanium dioxide, and thus as teaching away from the claimed invention. That is because all of the examples in Mitchnick relate to compositions that contain non-doped zinc oxide and either (a) an organic sunscreen agent e.g. octyl methoxycinnamate (see column 12, lines 1 to 14), or (b) non-doped titanium dioxide (see the second table in column 12 and the tables in column 13). Thus, Mitchnick seems to appreciate that the combination of non-doped titanium dioxide and an organic sunscreen agent in a composition is undesirable, presumably because the non-doped titanium dioxide adversely affects the organic sunscreen ingredient. A person skilled in the art, based on the teaching of Mitchnick, would not therefore include both a photosensitive, degradable organic sunscreen agent and titanium dioxide in the same composition.

Knowland is silent in respect of any stabilizing benefit of doped titanium dioxide to a photosensitive, degradable organic component present in a sunscreen composition. It follows that a person skilled in the art would expect doped titanium dioxide to have a similar degradative effect to non-doped titanium dioxide. Thus, the skilled person would not include doped titanium dioxide together with an organic component which is photosensitive or in which degradation is induced by another ingredient of the composition, based on the combined teachings of Mitchnick and Knowland.

The amended claims of the present application are therefore inventive over Mitchnick et al. in combination with Knowland et al (WO 99/60994). Accordingly, withdrawal of this rejection is respectfully requested.

Double Patenting Rejections

1. The Examiner provisionally rejected claims 1-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/563,062.

The functional feature at the end of claim 1 that relates to the rate of loss of UV absorption is not found in the prior art. This feature provides a distinction over the claims 1-29 of copending Application No. 10/563,062. Therefore, the instant claims are asserted to be non-obvious with respect to claims 1-29 of copending Application No. 10/563,062.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

2. The Examiner provisionally rejected claims 1-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 10-12, 16-20, 24-29, 50-52, and 54-55 of copending Application No. 10/588,071.

The functional feature at the end of claim 1 that relates to the rate of loss of UV absorption is not found in the prior art. This feature provides a distinction over the claims 8, 10-12, 16-20, 24-29, 50-52, and 54-55 of copending Application No. 10/588,071. Therefore, the instant claims are

asserted to be non-obvious with respect to claims 8, 10-12, 16-20, 24-29, 50-52, and 54-55 of copending Application No. 10/588,071.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

3. The Examiner provisionally rejected claims 1-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 and 14 of copending Application No. 10/555,570.

The functional feature at the end of claim 1 that relates to the rate of loss of UV absorption is not found in the prior art. This feature provides a distinction over the claims 1-11 and 14 of copending Application No. 10/555,570. Therefore, the instant claims are asserted to be non-obvious with respect to claims 1-11 and 14 of copending Application No. 10/555,570.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

4. The Examiner provisionally rejected claims 1-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054,188 and 11/207,408.

The functional feature at the end of claim 1 that relates to the rate of loss of UV absorption is not found in the prior art. This feature provides a distinction over the claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054,188 and 11/207,408. Therefore, the instant claims are

asserted to be non-obvious with respect to claims 1-14, 16-17 and 20-21 of copending Application Nos. 11/054,188 and 11/207,408.

In the event that the Examiner does not agree with the distinction noted above, the Examiner is respectfully requested to defer further consideration of the double patenting objection until an allowable set of claims have been obtained in this application.

5. The Examiner rejected claims 1-17 and 11-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 7-8 and 10 of U.S. Patent No. 6,869,569 in view of Mitchnick et al.

It is not clear to Applicant why the Examiner believes US 6,869,569 B2 to be relevant to the present claims. The '569 patent relates to apparatus for differentiating a sub-population of blood cells from other blood cells in a sample by measuring light scattering. There is no mention of compositions comprising TiO_2 or ZnO in that document. It is respectfully requested that the objection based on US 6,869,569 be withdrawn.

In addition, as noted above, the functional feature at the end of claim 1 that relates to the rate of loss of UV absorption is not found in the prior art. This feature provides a distinction over the claims 1-4, 7-8 and 10 of U.S. Patent No. 6,869,569. Therefore, for this additional reason, the instant claims are asserted to be non-obvious with respect to claims 1-4, 7-8 and 10 of U.S. Patent No. 6,869,569.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No.

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Respectfully submitted,

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